Engineering 2011-12

Department Requirements
(Total Department Units: 49-54)

2011-12 Course No.	Previous Course No.	Title (applies to SBCC GE areas)	Units	Institution & Course No.	Grade	Units (s/q)	Term
I. Core Courses:							
• CHEM 155	(5)	General Chemistry I[A]	5.0				
• ENGR 101	(1)	Introduction to Engineering	2.0				
• MATH 150	(25)	Calculus w/ Analytic Geometry I[D2]	5.0				
• MATH 160	(26)	Calculus w/ Analytic Geometry II[D2]	5.0				
• MATH 200+	(27)	Multivariable Calculus[D2]	4.0				
• MATH 210+	(29)	Linear Algebra[D2]	4.0				
• PHYS 121	(21)	Mechanics of Solids and Fluids[A]	5.0				
• PHYS 122	(22)	Electricity & Magnetism	5.0				
II. One of the following courses is required:(*)							
• ENGR 115	(15)	Statics & Strength of Materials ***OR***	4.0				
• ENGR 117	(17)	Electronic Circuits ***AND***	3.0				
ENGR 117L	(18)	Electronic Circuits, Laboratory	1.0				
III. Plus at least 3 additional courses from the following list:(*)							
• CHEM 156	(6)	General Chemistry II	5.0				
• CS 131	(COMSC 131/31)	Assembly Language Programming	4.0				
• CS 135	(COMSC 135/35)	Programming Fundamentals	3.0				
• CS 137	(COMSC 137/37)	C Programming	3.0				
• ENGR 105	(5)	Engineering Graphics ***OR***	4.0				
DRFT 105	(DRAFT 105/3)	Engineering Graphics	4.0				
• ENGR 115	(15)	Statics & Strength of Materials	4.0				
• ENGR 116	(none)	Dynamics	4.0				
• ENGR 117	(17)	Electronic Circuits ***AND***	3.0				
ENGR 117L	(18)	Electronic Circuits, Laboratory	1.0				
• ENGR 130	(22)	Comp.-Assist. Draft. & Design I ***OR***	5.0				
DRFT 130	(DRAFT 130/21)	Comp.-Assist. Draft. & Design I	5.0				
• MATH 220◆	(28)	Differential Equations[D2]	4.0				
• PHYS 123	(23)	Heat, Light, and Modern Physics	5.0				

+MATH 250 satisfies this requirement.

◆ MATH 260 may also count toward the elective requirement.

Note: A course may not be used to satisfy more than one requirement (double counting is not allowed).

(*) Completion of ENGR 140 satisfies either the one course requirement in II or one of the three courses required in III. Completion of ENGR 140 and 141 satisfies the one course requirement in II **AND** one of the three courses required in III **OR** satisfies two of the three courses required in III.

***Associate Degree Graduation Requirements*:** (1) Complete all department requirements with a "C" or better in each course. Candidates for an Associate Degree are also required to complete at least 20% of the department requirements through SBCC. Pass/No Pass grading is not permitted in those courses needed to fulfill department requirements; (2) Complete at least 18 units of General Education Requirements (Areas A-D of the SBCC General Education pattern); (3) Complete the SBCC Institutional Requirements (Area E); (4) Complete the Information Competency Requirement (Area F); (5) Complete a total of 60 degree-applicable units (SBCC courses numbered 100 and higher); (6) Maintain a cumulative GPA of 2.0 or better in all units attempted at SBCC; (7) Maintain a cumulative GPA of 2.0 or better in all college units attempted; and (8) Candidates for an Associate Degree are required to complete 15 units through SBCC.

Additional Program Information

For further information, contact the Counseling Center, 965-0581, Ext. 2285, or Michael Young, Department Chair, Ext. 2697. Check your degree progress with DARS U-Achieve at www.sbcc.edu/DARS.

SBCC AA/AS Degree Graduation Requirements (Must complete I, II, III and IV below)

I. General Education, Institutional & Information Competency (Institution & Course Number)

		Grade	Units (s/q)	Term
A-D.	**General Education Requirements****			
A.	Natural Sciences with Lab			
B.	Social and Behavioral Science			
C.	Humanities			
D.	Language and Rationality			
D-1.	English Composition			
D-2.	Communication and Analytical Thinking			
E.	**SBCC Institutional Requirements****			
E-1.	Mathematics			
	Plus complete three out of the four areas listed below (E-2 through E-5)			
E-2.	American Institutions			
E-3.	Physical Education/Health Education			
E-4.	Oral Communication			
E-5.	Multicultural/Gender Studies			
F.	**Information Competency Requirement****			

**For specific course, unit, grade and other graduation requirements see the General Education, Institutional and Information Competency Requirements handout available in the Counseling department or visit http://www.sbcc.edu/apply/files/gereq.pdf

II. Unit and Grade Point Average Requirements: Refer to Graduation Requirements on the other side of this document.

	Total Semester Units Attempted	***Total Semester Units Completed***	***Grade Points***	***GPA***
SBCC				
Transfer				
Total				

III. Residency Requirements: 1) 15 units completed through SBCC? ☐ Yes ☐ No
2) 20% of Department Requirements completed through SBCC? ☐ Yes ☐ No

IV. Department Requirements: Refer to the other side of this document for a list of required courses. Were all department requirements completed with a "C" or higher in each course? ☐ Yes ☐ No

Waivers/Substitutions:_____

Counselor Comments:_____

Student's Name:_____ Student ID: K_____

Counselor's Name:_____ Code:_____ Date: _____

Santa Barbara City College

Engineering

2011-12

Associate in Science/Associate in Arts Degree in Engineering

Engineering is the profession in which the physical, biological, and social sciences are applied to solve practical problems for the benefit of society. As an engineering student, you will learn to observe and describe problems that deal with human needs and to seek useful solutions to these problems. Your skills upon graduation will be useful to you not only as an engineer, but also as a professional in management, sales, operations, manufacturing and other fields.

Careers in Engineering

Graduates may enter professional occupations such as engineering design, computer hardware, systems analysis, modeling and simulation, manufacturing, applied research and field engineering. They may pursue careers in a broad cross-section of industry, government agencies, public utilities, marketing groups and educational institutions.

SBCC: Your Open Door to Educational Excellence